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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,743	06/27/2003	Michael L. Friedman	D0932-00356 (VW-8777)	7569
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DUANE MORRIS, LLP IP DEPARTMENT 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103-4196			EXAMINER THEXTON, MATTHEW	
			ART UNIT 1714	PAPER NUMBER

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/607,743

Applicant(s)

FRIEDMAN ET AL.

Examiner

Matthew A. Thexton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 2006 1/25 (remarks) and 3/10 (claims).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-27, 33, 34, 36, 41-43, 48-53, 59, 66 and 124 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16-27, 33, 34, 36, 41-43, 48-53, 59, 66 and 124 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Text of Title 35 USC not Cited***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Specification***

The disclosure is objected to because of the following informalities: In paragraph 48, line 1, there is an apparent extraneous occurrence of "of" after "from which."

Appropriate correction is required.

### ***Claims Version***

The listing of claims submitted in the paper filed 2006 March 10 has been examined.

### ***Claims Analysis***

Claims 14, 15, 28-32, 35, 37-40, 44-47, 54-58, 60-65, 67-123, 125-130 have been canceled.

Claims 1-13, 16-27, 33, 34, 36, 41-43, 48-53, 59, 66, and 124 are pending.

Claim 1 is directed to a mixture comprising a "plastic" comprising a "polymer" (defined in 0023-0026 of the specification) and "mineralized ash filler" (defined in 0027 of the specification); wherein the filler is characterized by TCLP filtrate concentrations of

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ten listed elements being “not greater than” (i.e., less than or equal to) values listed, in milligrams per milliliter.

Dependent claims 2-13, 16-27, 33, 34, 36, 41-43, and 48-53 variously further limit the type of polymer, the presence of a mix of polymers, the miscibility relationship of the mix of polymers, the amount of mineralized ash, the viscosity under certain conditions, the ash being fly ash or coal fly ash, specific metal leachability property under certain test method, the particle size characteristics of the ash, the presence of another filler, the additional filler being nanofiller, nanoclay, or surface-treated montmorillonite, the amount of additional filler, particle size characteristic of the additional filler, the mixture comprising a manufactured article, the article being a building material, a plank, an ornamental building material, or a structural building material.

Independent claim 59 is directed to methods of making a mixture comprising “incorporating” a mineralized ash filler into a polymer resin and thereafter “solidifying” the resin; wherein the filler is characterized by TCLP filtrate concentrations of ten listed elements being “not greater than” (i.e., less than or equal to) values listed, in milligrams per milliliter.

Claim 66 depends from claim 59 and further requires the plastic “is formed” into a shape selected from the group of plank, sheet, tube, and pellet, prior to solidifying.

Independent claim 124 is directed to methods “of increasing the tensile modulus of a plastic” comprising “incorporating” up to about 60 weight percent of mineralized ash filler into the plastic; wherein the filler is characterized by TCLP filtrate concentrations of

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ten listed elements being “not greater than” (i.e., less than or equal to) values listed, in milligrams per milliliter.

### ***Claim Objections***

Claims 1-13, 16-27, 33, 34, 36, 41-43, 48-53, 59, and 66 are objected to under 37 CFR 1.75(i) as being in improper form because each of a plurality of elements or steps of the claim should be separated by a line indentation. See MPEP § 608.01(m). Elements in claims 1-13, 16-27, 33, 34, 36, 41-43, and 48-53 which must be separated by a line indentation are at least “plastic” and “mineralized ash filler” and “a second filler.” Steps in claims 59 and 66 which must be separated by a line indentation are at least “incorporating” and “solidifying” and “formed.”

Claim 23 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation that cadmium “is not greater than about 0.1” is broader than limitation in claim 1, from which it depends.

### ***Claim Rejections - 35 USC § 112***

Claims 1-13, 16-27, 33, 34, 36, 41-43, 48-53, 59, 66, and 124 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description

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requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Each of the independent claims relies upon the definition of “mineralized” ash, as set forth in paragraph 27 of the specification, with further information in paragraph 91, and includes the limitation to the effect of wherein the filler is characterized by TCLP filtrate concentrations of ten listed elements being “not greater than” (i.e., less than or equal to) values listed, in milligrams per milliliter.

The following deficiencies are noted which reveal a lack of sufficient particularity that one skilled in the art would recognize that Applicant had possession of the claimed invention: (A) the “filler” is said to be characterized by the TCLP filtrate concentration of each of 10 elements being not greater than the listed concentrations, however, the procedure set forth in paragraph 0027 is different from the one at paragraph 0091, and neither one specifies which acid to use, which is critical since the choice of acid complexing agent is well known to affect the efficacy of metal value extraction, thus the skilled artisan does not know what the test is to determine the scope of the claimed

Paragraph 0027	Paragraph 0091
50 milliliters leachant per gram of ash	20 milliliters leachant per gram of ash
24 hour agitation	18 hour extraction
95 C	unspecified
pH < 2	unspecified

Analysis by EPA methods 200.7 and 245.1	Analysis by EPA methods 200.7 and 245.1 and 1312
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invention; (B) since the determination of the TCLP concentrations are limitations of the claims, such is "essential material" (37 CFR 1.57 (c)) which cannot be "incorporated by reference" to the documents cited and relied upon in these two paragraphs; (C) the deficiencies are not cured or avoided by the examples as set forth in paragraphs 91 and 98, because there is insufficient description of the commercial products used to permit the public to duplicate the examples, in particular, the website for American Ash Recycling Corporation lists two production facilities, one in Tennessee, one in Pennsylvania, which produce de-metallized Municipal Waste Combustion ash, the products having properties different from each other; significantly, neither is a coal derived fly ash (as required by claim 18). The specification fails to describe the claimed invention by way of example(s).

Claims 1-13, 16-27, 33, 34, 36, 41-43, 48-53, 59, 66, and 124 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The absence of the "essential material" referred to above renders the claims deficient with respect to enablement.

Claims 1-13, 16-27, 33, 34, 36, 41-43, 48-53, 59, 66, and 124 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The hereinabove conclusion that the claimed invention is not adequately described and/or enabled further supports the conclusion that the claims fail to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

#### ***Claim Rejections, Prior Art***

Rejections over prior art have not been made because the claimed subject matter is not known with sufficient clarity to support an understanding of the scope of the claimed subject matter.

#### ***Response to Arguments***

Applicant's arguments filed 2006 January 25 have been fully considered but they are only partially persuasive. With respect to the numbered points (pages 9-11 of response), the following observations are made. (1) the intended meaning of 0027 is now understood to mean that the "not more than 20% of the metal content" refers to the test leachates of ash before de-metallizing versus after, not to the actual metal content of the ash and de-metallized ash. (2) this issue is moot in light of the claims amendments. (3) this issue is moot in light of the claims amendments. (4) Examiner's



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error is noted with respect to the two reported results which are now understood to be those of two different commercial testing laboratories. Since the same sample is seen to result in very different results, it is concluded that the specifics of the TCLP test materials and procedures are essential in order for the specification to satisfy 35 USC 112. (5) the differences between the tests of 0027 and 0091 have been noted in the statement of rejection, hereinabove. Applicant's conclusion that there is no incongruity is not acceded to because of the noted differences. (6) Applicant states that "a skilled artisan would not select a non-efficacious method of extracting a metal of interest." This is a non sequitur. The issue is what acid was actually used in the test method.

Applicant goes on to state "Furthermore, the specification does not require that the same acid be used for analysis of all metals." This raises additional issues since the EPA methods are only broadly set forth; but there is nothing in the specification that implies that more than one extraction is performed, i.e., only one acid is implied.

Applicant further states "Indeed, the fact that two commercial laboratories were able to analyze the mineralized ash filler sample described in Table 1 belies the Examiner's contention that skilled artisans are unable to perform such assays." In response it is noted that the Examiner's contention is that based on Applicant's specification the ordinary artisan would not know how to perform the TCLP test(s); it is not known what the commercial laboratories did in their tests, so the ordinary artisan could not duplicate them. It appears that the very different results of the two commercial laboratories confirms that the specifics of the TCLP test materials and procedures are essential in order for the specification to satisfy 35 USC 112. Applicant suggests that one

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"see...EPA document SW-846" but has not submitted it. (7) this issue is moot in light of the claims amendments.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Thexton whose telephone number is 571-272-1125. The examiner can normally be reached on Tuesday-Friday, 9:30 to 7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan S. Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Matthew A. Thexton  
Primary Examiner  
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